

## **Note to Files---2021 Snorkel Survey conditions, results and observations on the Coquihalla River (Wed., Aug. 25) and Silverhope Creek (Thurs. August 26)**

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From: Ptolemy, Ron ENV:EX <Ron.Ptolemy@gov.bc.ca>  
To: Morgan, Kendra FLNR:EX <Kendra.Morgan@gov.bc.ca>  
Cc: Wilson, Greg ENV:EX <Greg.Wilson@gov.bc.ca>, Tschaplinski, Peter J ENV:EX <Peter.Tschaplinski@gov.bc.ca>, Winand, Megan FLNR:EX <Megan.Winand@gov.bc.ca>, Courcelles, Danielle FLNR:EX <Danielle.Courcelles@gov.bc.ca>, Schwindt, Colin FLNR:EX <Colin.Schwindt@gov.bc.ca>, Hains, Kimberly FLNR:EX <Kimberly.Hains@gov.bc.ca>, Chan, Joshua H FLNR:EX <Joshua.Chan@gov.bc.ca>, Sanders, James D FLNR:EX <James.Sanders@gov.bc.ca>, Li, Ada FLNR:EX <Ada.Li@gov.bc.ca>, Tousignant, Kelcy FLNR:EX <Kelcy.Tousignant@gov.bc.ca>, Bison, Robert FLNR:EX <Robert.Bison@gov.bc.ca>, Mike Miles <Mike.Miles@gov.bc.ca>, McCulloch, Mike FLNR:EX <Mike.McCulloch@gov.bc.ca>  
Sent: August 29, 2021 3:27:17 PM PDT

## **Note to Files---2021 Snorkel Survey conditions, results and observations on the Coquihalla River (Wed., Aug. 25) and Silverhope Creek (Thurs., August 26)**

### **Observations and remarks:**

1. Both streams were flowing at extreme low flows at Drought Level 5. Flows are highly correlated between the two streams. Flows on the Coquihalla River were 5.9 cms at Hope and 5.0 cms at Schoolhouse Pool; Flow Stage = 18%LT mad. LT mad for lower Silverhope Creek is 15.0 cms with a drought flow of 22%LT mad or 3.3 cms. Flows above Silver Lake are <1.5 cms and location dependent.
2. Weather was hot on both snorkel days with a bright overcast on Silverhope. Late afternoon air temperatures in Hope were 29° C.
3. Stream transparency was variable on the Coquihalla River ranging from 3.0 m at Sowaqua Bridge to 5.0 m in Sowaqua Creek. Transparency was highly reduced near Dewdney Creek as a result of in-channel construction (Section 1 from Ladner Creek to Sowaqua). Pulses of cloudy water below sediment inputs were anticipated.
4. Much of the Coquihalla River survey length (21 km total) **was not examined due to a safety hazard caused by a pipeline gas leak**. Road access was not allowed by Enbridge construction team.
5. Steelhead adult numbers in Section 2 (Sowaqua Bridge downstream for about 1 km) counted as 4 fish. Ron's team was to cover 7 km from Sowaqua downstream to Lear.
6. Section 2 is very high gradient with a high fraction of white-water Rapid and Riffle habitat. Fry densities were low (< 50 FPU) and parr densities were moderate (<20 FPU) in suitable habitats. Quantitative population density estimates to be completed in late September-Early October by Total Population Removal procedure at meso-habitat scale.
7. There continues to be a loss of pool and run habitat on the Coquihalla River as a result of channel widening, infilling by sediment, and loss of natural mammoth boulder structures (highway protection measures in 1980s). There remains a need to mitigate habitat losses.
8. The heavy amount of highway traffic and local pipeline construction activities made for a very noisy environment.
9. Spot check of conditions and fish numbers at Othello Tunnels revealed very few adults below the more difficult selective barrier. No fish leapers were seen. The numbers of tourists to the Tunnels was extremely high.
10. Snorkel conditions on the Silverhope Creek were more favorable with no road traffic and being quiet. Stream transparency was unlimited at 7.0 m. Lots of campers along the river and possible disturbance of adults in deeper habitats.
11. Moderate-high steelhead fry densities were observed in the the km 19 to km 14 upper section complete by Ron Ptolemy and Megan Winand. Counts of fish included 5 adult steelhead, 3 Bull Trout, and 5 resident Rainbow Trout.

12. Low counts of adults was anticipated as informed by the historic pattern of results as a function of low water; higher counts are observed in higher water years. Silver Lake is a known summer refuge water body where steelhead are often angled, caught or observed milling around the lake outlet.
13. Several key holding areas did not contained any adults as expected. High steelhead fry counts in 2022 may be more informative of adult escapement.
14. Steelhead parr abundance was high and at capacity in suitable habitats. Clouds of parr could be seen at the heads of pools and runs below Riffles/Rapids. Fish condition factor was excellent.
15. About 90% of the snorkel length was to shallow due to decreased pool frequency related to logging impacts, loss of major log jams, channel widening ( 2 to 3x Normal), sediment through put, and road protection measures. Considerable amount of walking was required to complete the survey length.
16. Transit time for Silverhope Creek "swim" was 2.5 hr with a start at 1005 hr.
17. Other details of the survey were recorded by the Safety Spotters per swim team and river.

## Conversation with Bison, Robert FLNR:EX

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From: Bison, Robert FLNR:EX <robert.bison@gov.bc.ca>  
To: Bison, Robert FLNR:EX <Robert.Bison@gov.bc.ca>, Courcelles, Danielle FLNR:EX <Danielle.Courcelles@gov.bc.ca>  
Sent: September 23, 2021 11:40:19 AM PDT

**Bison, Robert FLNR:EX 11:32 AM:**

Hi Danielle

**Bison, Robert FLNR:EX 11:33 AM:**

I'm wondering if you participated in the Coquihalla steelhead survey.

**Courcelles, Danielle FLNR:EX 11:33 AM:**

the snorkel swim, yes!

**Bison, Robert FLNR:EX 11:34 AM:**

So I read Ron's email about the survey. Is it fair to say that we don't know much about the steelhead return to the Coq this year?

**Courcelles, Danielle FLNR:EX 11:36 AM:**

i would say so. We weren't able to survey the whole river due to unforeseen circumstances. That being said, we tried to do a steelhead translocation from below the barrier, and were only able to catch about 20 steelhead. There didn't seem to be many visible in the pool.

**Courcelles, Danielle FLNR:EX 11:36 AM:**

angling for them during the transport wasn't particularly good. :(

**Courcelles, Danielle FLNR:EX 11:37 AM:**

I'm just in a meeting. Can I call you at noon?

**Bison, Robert FLNR:EX 11:37 AM:**

You bet. Thanks.

**Courcelles, Danielle FLNR:EX 11:37 AM:**

awesome!

Snorkel Swim (Notes by KM)  
August 25, 2021

(Historic swim dates: Aug 26/27 2020; Aug 27/28 2019; Aug 28 2018; Aug 23 2017; Aug 31 2016)

#### LADNER - SOWAQUA Bridge

Swimmers: Kelcy Tousignant, Colin Schwindt  
Safety Driver: Mike Willcox (volunteer); James Sanders

Swim cut short at Carolin Bridge due to instream works failure (sediment plume).  
1 ST seen in first half of swim

#### SOWAQUA BRIDGE - LEAR BRIDGE

Swimmers: Ron Ptolemy; Megan Winand  
Safety Driver: Josh Chan

Swim cut short between Juv site 8&9 (approx. 49.441960/-121.28) due to closure of road at Lear Bridge (potential natural gas leak, road closed to vehicles by construction crew).  
Inadequate options for safety spotter below that point so swimmers pulled from river.  
Observed 4 ST in section swum

#### LEAR BRIDGE - OTHELLO TUNNELS

Swimmers: Kendra Morgan, Kim Hains, Danielle Courcelles (partial)  
Safety Driver: Ada Li

Swam Lear Bridge but skipped section immediately below bridge due to excessive equipment in river (pipeline construction) and overhead safety risk from works.  
Highgraded swim (stayed out of low, wide sections of river).  
Observed 4 ST between hwy 5 bridge and schoolhouse pool. Ended at Schoolhouse Pool.

#### BARRIER POOL

Current was too strong for a decent view of the pool (outlet built up). Observations from the bridge/tunnel suggest at least 40 ST near outlet, 10-20 observed near falls  
Professional opinion is that it will be challenging to pull in ST for transport under these conditions.

#### POPULATION SIZE:

Based on observation of 9 ST in approximately 1/2 of the swim as well as approx 15 records of ST caught in the fishery.  
Prof opinion (Mike Willcox) is there could be as many as 50-100 ST in upper river.

## 2021 Coquihalla snorkel spot swims

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From: Hegele, Christopher FLNR:EX <Christopher.Hegele@gov.bc.ca>  
To: Morgan, Kendra FLNR:EX <Kendra.Morgan@gov.bc.ca>  
Sent: October 12, 2021 10:13:09 AM PDT  
Attachments: FIELD ITINERARY: Coquihalla Spot Swims (Aug. 4), image001.jpg

Hi Kendra,

Sorry, this field itinerary is all I have and which you already probably have as well. I don't have anything from Mike either that would have summarized our results.

I do remember we counted only a few ST (~4-5) after swimming a few sections. Mike may have recorded notes on his phone and/or emailed himself a summary that would detail the sections we swam and #'s.

CH



**Chris Hegele, R.P.Bio.**

Aquatic Biologist  
Fish & Aquatic Wildlife Resources Section  
Ministry of Forests, Lands, Natural Resource Operations & Rural Development (South Coast)  
200 - 10428 153<sup>rd</sup> Street, Surrey, BC V3R 1E1  
Phone: 236.468.3230

## FIELD ITINERARY: Coquihalla Spot Swims (Aug. 4)

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From: Hegele, Christopher FLNR:EX <Christopher.Hegele@gov.bc.ca>  
To: Morgan, Kendra FLNR:EX <Kendra.Morgan@gov.bc.ca>, Lensky, Kristina  
FLNR:EX <Kristina.Lensky@gov.bc.ca>  
Cc: Willcox, Michael FLNR:EX <Michael.Willcox@gov.bc.ca>, Schwindt, Colin  
FLNR:EX <Colin.Schwindt@gov.bc.ca>  
Sent: August 3, 2021 11:53:45 AM PDT  
Attachments: image001.jpg, 2021 08 04 FI - Coquihalla Spot Swims.pdf  
Kendra, Kristina,

Attached is FI for tomorrow's spot swims on Coquihalla River to assess feasibility of tag application and late summer index swim.

Please let me know if you have any questions,



**Chris Hegele, R.P.Bio.**

Aquatic Biologist  
Fish & Aquatic Wildlife Resources Section  
Ministry of Forests, Lands, Natural Resource Operations & Rural Development (South Coast)  
200 - 10428 153<sup>rd</sup> Street, Surrey, BC V3R 1E1  
Phone: 236.468.3230

# FIELD ITINERARY

**Print**

**Individual or Group Leader - First and Last Name:** If signing out as a group the Group Leader will be responsible for and assumed by the Monitors to be doing all check-ins for the group. Only one person/call sign should be doing check-ins for the group.

Chris Hegele

**Individual or Group Leader Call Sign:**  
1B95

**Work Cell Number of Individual or Group Leader:**  
s.17

**Mode of Transportation (e.g. boat, snowmobile, ATV, FS Vehicle) - Note FS Vehicle Number in this section:**

Fleet vehicles: Chev Colorado (Lic: RD4312) and Ford F350 (Lic: EG7301)

**Program You Work For:** Fish and Aquatic wildlife

**Accompanying Field Staff:** (Names & Call Signs)

1. Mike Willcox (1B29)

4.

2. Colin Schwindt (1B97)

5.

3.

6.

**Date of Travel:** 2021-08-04

**Leave Time:** 07:00

**Return Time:** 16:30

**GPS Coordinates, if available**

**Latitude:** 49.380853

**Longitude:** -121.3570086

**Applicable Radio Tones/Channel**

**Check-in Interval**

**Hours:** 4

**Minutes:**

**WSCI Safety Contact:** Record the name and contact number in the cells below, of the person in your local office identified to be contacted by the Monitor if you have missed your required check-in and the Monitor needs to find you or you require assistance or are in an identified emergency situation. The WSCI Safety Contact is a resource with the authority to authorize the activation of local resources, emergency services and funding when made aware of an emergency situation.

**Staff Contact Name:** Kendra Morgan

**Phone Number:** s.17

**Management Contact Name:** Kristina Lensky

**Phone Number:** s.17

## FIELD TRIP SCHEDULE

Time (i.e. 08:00)	Location (departure & arrival)	Comments
0700	Depart Surrey Office	
0815	Arrive District of Hope	Check in with SafetyLine
0815-1215	Spot swims on Coquihalla b/w Ladner Creek and Top of Othello Tunnel	
	to assess feasibility of tag application and late summer index swim	
1215	safetyline check-in	Check in with SafetyLine
1200-1400	Continue spot swims in upper reaches if required	
1400	Depart for return to office	Check out with SafetyLine
1530	Arrive Office	
	Any changes to locations will be updated in SafetyLine message	

**Known Safety Hazards:**

Water, wildlife, pipeline construction

To aid in emergency response, leave a copy of your planned worksite on the vehicle dash. Where appropriate please include an overview map identifying access routes to any block(s) you will be working.

River Name	Watershed Code	Date of Survey	Snorkelers
Coquihalla River	100-113848-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000	8/25/2021 5:29:00 PM	Ron, Megan
Coquihalla River	100-113848-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000	8/25/2021 5:40:00 PM	Colin, Kelcy
Coquihalla River	100-113848-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000	8/25/2021 6:31:00 PM	Kim, Kendra
Coquihalla River	100-113848-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000	8/25/2021 6:31:00 PM	Kim, Kendra
Coquihalla River	100-113848-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000	8/25/2021 6:31:00 PM	Kim, Kendra
Coquihalla River	100-113848-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000	8/25/2021 6:31:00 PM	Kim, Kendra
Coquihalla River	100-113848-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000-000000	8/25/2021 6:31:00 PM	Kim, Kendra



Weather	General Comments	startx	starty	endx	endy	Survey Section Name	Visibility (m)	Stream Discharge (m3/s)	Water Temp (°C)
Sunny	Sowqua bridge	-121.2699184	49.44685176	-121.279647	49.4419581	Start Sowqua bridge		6	11.7
Sunny. 18 degrees	Unable to proceed downstream of Caroline bridge due to water visibility.	-121.2401072	49.49310231	-121.2401072	49.49310231	Ladner Creek	10		12
sunny		-121.3167794	49.4068519	-121.3212247	49.3813093	Lear Bridge	10		
sunny		-121.3158934	49.3985159	-121.3190968	49.3929811				
sunny		-121.3172436	49.3857497	-121.3172591	49.3857691	bridge to muster point			
sunny		-121.3191486	49.3851633	-121.3211826	49.381237				
sunny		-121.3210906	49.3813067	-121.3267724	49.3799194				

Survey Section Comments	Unmarked	Unmarked	Unmarked	Marked St	Marked St	Marked Steelhead (Unknown)	PARR	Resident Rainbow Trout <50 cm	Dolly Varden / Bull Trout	Cutthroat	Coho Salmon	Other fish species
	4						5	6		2		
Low flow unlimited visibility cold	1						100	30	3			
								1	1			
							5					
			2									
			2					2				